

7. *CICUTA BULBIFERA* L. Sp. Pl. 1: 255. 1753. *Cicutaria bulbifera* Lam. Encycl. 2: 3. 1786. *Keraskomion bulbiferum* Raf. New. Fl. 4: 21. 1836.

Type locality. Virginia, Canada, *Clayton*.

Distribution. Newfoundland and Quebec to Delaware and Pennsylvania, west to British Columbia and Oregon.

Representatives. *Cusick 2966; Heller & Heller 551; Sandberg, MacDougal & Heller 789*.

Department of Botany,
University of California, Berkeley,
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2. COULTER, JOHN M. & J. N. ROSE. Revision of North American Umbelliferae. 129-130. 1888.
3. ————. Contr. U. S. Nat. Herb. 7: 93-100. 1900.
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GREAT BASIN PLANTS—VI. NOTES ON GENTIANA

BASSETT MAGUIRE

Continuing the series of minor papers discussing plants of the Great Basin, these notes are concerned with the delineation of a newly recognized geographical population of *Gentiana calycosa*, and the confirmation of a range extension of *G. barbellata*. All specimens herein cited are on deposit at the Intermountain Herbarium. The United States Forest Herbarium, Washington, D. C., is designated by the symbol USFH.

GENTIANA BARBELLATA Engelm. The following collection confirms the queried inclusion of the species within the Utah range by Tidestrom. UTAH. Sanpete County: frequent, stony, steep, west-facing slopes, summit of Horse Shoe Mountain, South Peak, 12,000 feet, Manti National Forest, August 11, 1940, *Maguire 20059*.

GENTIANA CALYCOSA Griseb. subsp. *typica* nom. nov., *G. calycosa* Griseb. in Hook. Fl. Bor. Amer. 2: 58. 1838. *Dasystephana obtusiloba* Rydb., Bull. Torr. Bot. Club 40: 464. 1913. *D. monticola* Rydb. *l.c.*

GENTIANA CALYCOSA Griseb. subsp. *asepala* subsp. nov. Herbae perennes parvulae; caulibus decumbentibus, 5-10(12) cm. longis; foliis ovatis vel ovato-ellipticalibus 1.0-1.5(1.7) cm. longis; floribus solitariis; corollis 3-4 cm. longis; calicibus membranaceis, graviter incisus, lobis obsoletis vel inconspicuis subulatisque, rare excedentibus 1-1.5 mm.

Low perennial herbs; stems decumbent, 5-10(12) cm. long; leaves ovate to ovate elliptical 1.0-1.5(1.7) cm. long; flowers solitary, corolla 3-4 cm. long; calyx membranaceous, character-

istically deeply incised on two sides, lobes obsolete, or inconspicuous and subulate, rarely more than 1–1.5 mm. long.

Type. Meadows about seepage areas, southeast slopes, saddle west of Mount Agassiz, 11,500 feet elevation, Uinta Mountains, Duchesne County, Utah, August 15, 1933, *B. Maguire, Ruth Maguire, & A. G. Richards, 4225*.

Specimens examined. IDAHO. Custer County: meadow, Steward Canyon, 8000 feet, Lemhi National Forest, July 17, 1931, *S. L. Jacobs 90* (USFH, 65577). Idaho County: Floyd Meadow, 6000 feet, Idaho National Forest, August 8, 1930, *C. Gray CG57* (USFH, 67318). Lemhi County: Allen Lake Meadow, 8000 feet, Salmon National Forest, September, 1930, *A. H. Wheeler 70* (USFH, 84421). Valley County: Nameless Meadow, 6500 feet, Fayette National Forest, September 1, 1930, *L. N. Wellman 18* (USFH, 67628) mixed with *G. affinis*. Blaine County: alpine slopes, base Devil's Bedstead, Sawtooth Range, 8000 feet, July 28, 1936, *J. W. Thompson 13549*. Custer County: damp, springy soil, Toxaway Lake, 10 miles west-southwest of Obsidian, Sawtooth Mountains, 8500 feet, August 8–11, 1937, *C. L. Hitchcock & J. S. Martin 5749*; Mount Hyndman, August 11, 1939, *Ray J. Davis 1704*. NEVADA. Elko County: meadow, Ruby Ranger Station, 6000 feet, Humboldt National Forest, June 28, 1930, *L. E. McKenzie 28* (USFH, 64353). UTAH. Summit County: meadows, Lily Lake, 10,500 feet, 3 miles west of Bald Mountain, Uinta Mountains, August 14, 1933, *Maguire et al. 4224*; bogs, west shore Henry's Fork Lake, 10,850 feet, Uinta Mountains, August 4, 1936, *Maguire et al. 14381*. Uintah County: wet place under spruce, south base of Liedy Peak, 10,000 feet, Uinta Mountains, August 21, 1939, *Maguire 17678*. Specimens from Oregon intermediate to subsp. *typica* are: Baker County: Antony Lakes Region, Blue Mountains, 7100 feet, July 23, 1936, *J. W. Thompson 13430*. Wallowa County: meadows, Mirror Lake, Eagle Cap Peak, Wallowa Mountains, 7500 feet, September 24, 1938, *C. W. Sharsmith 3971*.

The subspecies of *Gentiana calycosa* may be distinguished as follows:

Subspecies <i>asepala</i>	Subspecies <i>typica</i>
Stems conspicuously decumbent, 5–10 (12) cm. long.	Stems erect, or slightly decumbent at the base, (8)10–20 cm. long.
Leaves 1.0–1.5(1.7) cm. long.	Leaves (1.5)2.0–3.0 cm. long
Corollas 3–4 cm. long.	Corollas 3.5–4.5(5.0) cm. long.
Calyx membranaceous, deeply incised, lobes obsolete, or inconspicuous and mostly subulate, 1.0–1.5(2.0) cm. long.	Calyx membranaceous mainly in the sinuses, not at all or rarely incised, lobes foliaceous, ovate, elliptic, or lanceolate, 5–10(15) mm. long.
A Great Basin-Intermountain race, apparently confined to Utah, Nevada and Idaho. Intermediate plants are known from eastern Oregon.	The population of the Rocky Mountains and the Sierra Nevada, extending into Alberta and British Columbia.

The smaller, frequently almost procumbent subspecies is primarily and sharply set off from the typical population by the critical calyx distinction. It further occupies a clear-cut southern geographical range. Interestingly there is considerable similarity in its calyx characters to those of *Gentiana Parryi* of the southern Rocky Mountains, suggesting that this latter species might be likewise a southern, but more complete segregate of *G. calycosa* subsp. *typica*.

Intermountain Herbarium,
Utah State Agricultural College, Logan.
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ARNICA IN ALASKA AND YUKON

BASSETT MAGUIRE

For some time the manuscript of a monograph of the genus *Arnica* has been completed, and is awaiting publication. During the course of the work the writer had been asked by Dr. Eric Hultén to contribute the account of *Arnica* for the "Flora of Alaska and Yukon," now appearing in parts. Because of the immediacy of the needs of Dr. Hultén, and because appearance of the "monograph" does not, in the near future, seem probable, the following new entities, new names, and new combinations, for the most part, are herewith extracted from that study. Only the principal synonymy is given for the new names and combinations. Sequences and numbering of entities is that employed in the treatment prepared for Hultén's "Flora."

1a. *ARNICA ALPINA* (L.) Olin subsp. *angustifolia* (Vahl) comb. nov. *A. angustifolia* Vahl, Fl. Dan. 3. 1816; *A. alpina* (L.) Olin var. *angustifolia* Fernald, Rhodora 36: 96. 1934.

1b. *ARNICA ALPINA* (L.) Olin subsp. *attenuata* (Greene) comb. nov. *A. attenuata* Greene, Pittonia 4: 170. 1900.

1c. *ARNICA ALPINA* (L.) Olin subsp. *tomentosa* (Macoun) comb. nov. *A. tomentosa* Macoun, Ottawa Nat. 13: 168. 1899; *A. tomentosa* Greene, Pittonia 4: 168. 1900; *A. pulchella* Fernald, Rhodora 27: 18. 1915.

2a. *ARNICA LOUISEANA* Farr subsp. *frigida* (Meyer) comb. nov. *A. frigida* Meyer ex Ilijin, Trav. Musc. Bot. Acad. Sc. U.S.S.R. 19: 112. 1926; *A. nutans* Rydb. N. Am. Fl. 34: 328. 1927; *A. Sancti-Laurenti* Rydb., N. Am. Fl. 34: 328. 1927.

a. Var. *genuina* nom. nov. *A. frigida* Meyer ex Ilijin *l.c.*

b. Var. *Mendenhallii* (Rydb.) comb. nov. *A. Mendenhallii* Rydb. N. Am. Fl. 34: 329. 1927.

c. Var. *brevifolia* (Rydb.) comb. nov. *A. brevifolia* Rydb. N. Am. Fl. 34: 329. 1927.

d. Var. *illiamnae* (Rydb.) comb. nov. *A. Illiamnae* Rydb. N. Am. Fl. 34: 331. 1927.